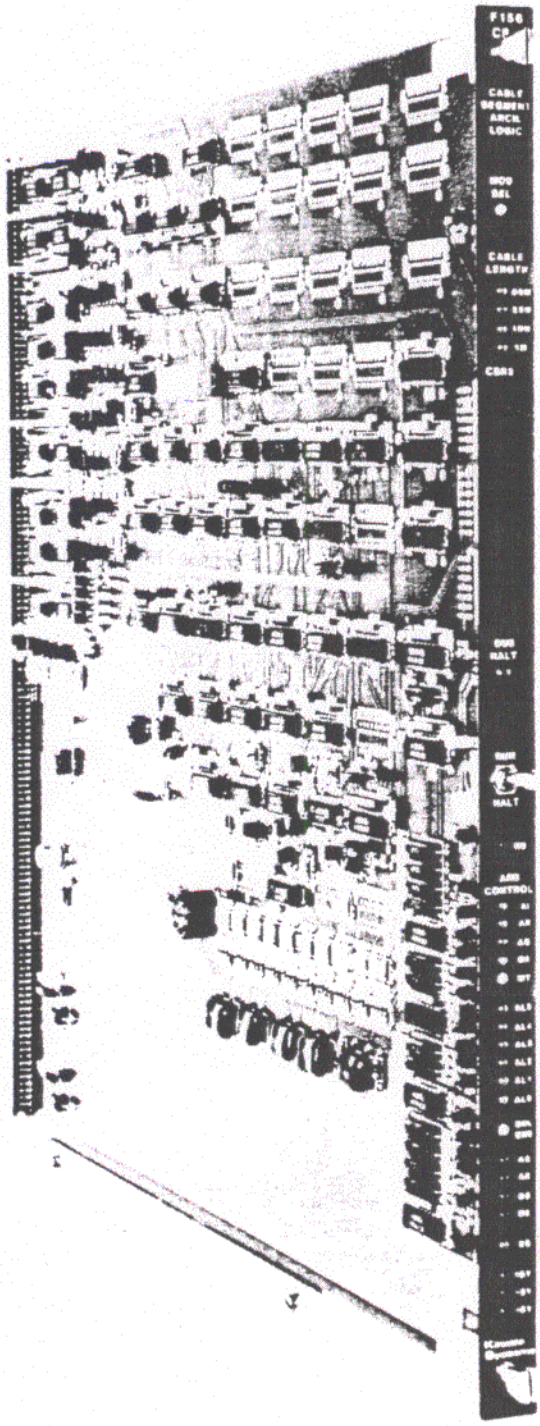
FASTBUS F156

Cable Segment Ancillary Logic Card

(Rev. Oct. 87)

FEATURES

- **Arbitration timing controller**
- **Geographical and broadcast address controller**
- **Switch selectable timing for various cable segment lengths**
- **Switch selectable segment address register (CSR1)**
- **Front panel LED indicators on timing lines and power lines**
- **Static ground strip on top/bottom edge of circuit board**
- **Fused and transient protected**
- **Cable segment active terminator (4 mA current source)**
- **Front panel run/halt switch**
- **Front panel 7-segment displays of group address (CSR3)**



GENERAL DESCRIPTION

The F156 Cable Segment Ancillary Logic Card is a single-width FASTBUS module designed to provide all the ancillary logic functions of the IEEE Std. 960 FASTBUS Cable Segment. This module resides in the Model F050 FASTBUS crate and derives its power from the crate, it performs its ancillary logic functions on a Cable Segment connected to its 130-pin auxiliary connector. These functions include control of the arbitration for the Cable Segment mastership, assertion of the EG signal upon recognition of a geographic address cycle, and System Handshake response to Broadcast Operations. The F156 is functionally equivalent to the two Crate Segment Ancillary Logic Cards (F151 & F152) with the following minor exceptions:

1. Presence of timing circuitry required to accommodate different lengths of the cable
2. A run/halt switch mounted on the front panel
3. Presence of cable segment terminations and differential biasing
4. Cable segment drivers and receivers
5. Absence of unnecessary "GA" voltage generation

The timing requirements for various Cable Segment lengths for 1, 10, 25, and 50 meters are accomplished by switch selectable timing circuits. Four front panel LEDs indicate the selected cable length. Note: the cable length switch should be set to the smallest length selection that exceeds the physical cable length.

The run/halt switch is mounted on the front panel of the F156 to activate the BUS HALTED signal line, and a flashing LED indicates its status.

The F156 CSAL contains three registers in CSR space. CSR0 is a Read-only register containing the KSC module ID code (1002H). CSR1 is a Read-only register to uniquely identify the Cable Segment to which the F156 is attached. This register contains twelve user settable switches assigned to the group field portion (AD<31:20>) of the address/data lines. CSR3 is a Read/Write register which is used to hold the logical address of the segment or GROUP ADDRESS.

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GENERAL DESCRIPTION *(continued)*

All signals to the Cable Segment are driven differentially by special current drivers mounted in sockets. Termination of each signal pair is provided by two 56 ohm resistors and a current mirror to ensure that quiescent conditions reliably indicate a logic zero. Typically, one end of the Cable Segment is connected to an F156 CSAL through an unterminated Auxiliary Cable Card (ACC) Model F155-A01. An ACC with terminations (F155-A02) closes the current loop of each differential pair at the opposite end of the cable with the proper terminating impedance. Typically, the Cable Segment is implemented as two 60-conductor twist and flat ribbon cables having a nominal characteristic impedance of 110 ohms. Additional FASTBUS modules may participate in Cable Segment communications by connecting to the cable at any intervening point.

The modules described above include all of the hardware needed to properly execute the FASTBUS protocol over a Cable Segment.

POWER REQUIREMENTS

+5.0V — 0.28A
−5.2V — 2.64A
−2.0V — 0.20A

ORDERING INFORMATION

Weight: 1.3 kg (2 lb 13 oz.)

Model F156-A01	—	Cable Segment Ancillary Logic Card
Model F156-A02	—	Same as F156-A01 with F155-A01 Auxiliary Cable Card
Model F156-A03	—	Same as F156-A01 with F155-A02 Auxiliary Cable Card
Accessories	—	Model F155-A11 - Auxiliary Cable Card Model F155-A12 - Auxiliary Cable Card with 100 ohm Termination Resitors Model F290-A02 - Crate/Cable Segment Display Module Model F900-A01 - Segment Interconnect